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AUTHOR Allen, Diane D.
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ABSTRACT

A study examined oral and silent reading rates at various levels of difficulty to establish criterion rates for fluent reading at the fourth grade level. Subjects, 27 male and 45 female students from 6 classes in 3 public schools in central Oklahoma who read at an average of more than one year above grade placement, had their oral and silent reading rates measured for a variety of difficulty levels. Comparisons of the mean rates established by this study with mean rates established in previous studies indicate serious inconsistencies. The oral and silent reading rates obtained in this study indicate a decrease in the rate of reading in the past 20 years. Findings suggest that rate should not be considered as a factor in word recognition and comprehension tests but should be measured as a separate component of the reading process. Instructional time should be directed to the improvement of rate and the development of flexibility in rate. (Two tables of data are included.) (RS)

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Diane D. Allen, Ed.D.
Department of Education
University of Alabama in
Huntsville
Huntsville, Alabama 35899
(205) 895-6180

Oral and Silent Reading Rates of Fourth Grade Students: Are All Good Readers Fast Readers?

Running Head: Reading Rates

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Oral and Silent Reading Rates of Fourth Grade Students: Are All Good Readers Fast Readers?

INTRODUCTION

For a long time reading researchers have attempted to define and quantify appropriate oral and silent reading rates for students at specific grade levels. However, in reviewing the literature on rate, few studies have been found which have clearly established the criteria for successful performance at any level. Most of the studies that did attempt to establish rates, generally did not establish ranges of rates dependent on the differences in the difficulty of the material.

As early as 1916, King's research indicated that good readers were not necessarily the fastest readers. This was reconfirmed by Daves' (1986) research with fourth and sixth graders. She found that some able readers do have poor reading rates even though their word recognition and comprehension skills were good. Since many of the present day reading tests and achievement tests are conducted within strict time limits, many good readers may not score as well as their reading ability would indicate.

Stroud and Henderson (1943) analyzed the reading rates of 625 fifth grade students in ten schools. No effort was made to determine actual reading ability of each student. The students were ranked by percentiles according to the rate scores on a fifth-grade passage.

Average rates (wpm) for each percentile rank were then established for each level of reading selection. Stroud and Henderson assumed that the slowest readers were the poorest readers in their interpretation of the average rates. There was no attempt to rank these students in percentile ranks according to reading achievement (Table 1).

Durrell (1955) presented a chart listing acceptable oral and silent reading rates for specific grade levels in his manual for the Durrell Analysis of Reading Difficulty. These rates were based on the work Durrell had done with children at the Boston University Educational Clinic; however, the results of these studies were not reported in the manual or the literature. The rates established by Durrell are reported as one acceptable rate for each grade level. Ranges of rates for each grade level or for varying difficulty are not reported(Table 1).

In 1965, Taylor established silent reading norms by observing eye movements of readers. His study involved 12,143 students in grades one through college. Eye movements were photographed by the Reading Eye camera as the students read the selections. Readability of the selections was approximately at the mid-year point of the child's grade placement. For example, if the child was in second grade, his reading selection would have had a readability level of approximately 2.5. Comprehension was 70% or above for those students in this study. Each child read one selection at his grade placement

Table 1

Summary of the Literature Relating to Criterion Rates for Specific Levels of Readers

Study	N	Level of Students	Established rates

Stroud & Henderson (1943) — 625 — 5th grade

Percentiles	Selections 5th grade	5th grade	2nd grade	9th grade
99	539	491	794	554
90	338	320	379	361
75	247	230	272	240
50	185	181	206	185
25	149	133	154	143
10	120	105	123	111
1	80	63	69	63

Durrell (1955) — Not Known — 1st - 6th Grades

	Rate in Words Per Minute					
Grade	1	2	3	4	5	6
Oral Reading	45	80	110	135	150	170
Silent Reading	45	78	125	156	180	210

Taylor (1965) — 12,143 — 1st grade - College

Grade level	1	2	3	4	5	6
Rate with Comprehension (words per minute)	80	115	138	168	173	195
Grade level	7	8	9	10	11	12
Rate with Comprehension (words per minute)	204	214	224	237	250	280

Table 1 (continued)

Study	N	Level of Students	Established rates				
					Performance Rating		
Gilmore and Gilmore (1968)	4,455	1st - 8th Grades	Grade	Form	Slow	Average	Fast
			1.8	C	Below 30	30-54	Above 54
				D	Below 31	31-54	Above 54
			2.8	C	Below 67	67-103	Above 103
				D	Below 66	66-104	Above 104
			3.8	C	Below 86	86-108	Above 118
				D	Below 88	88-124	Above 124
			4.8	C	Below 95	95-128	Above 128
				D	Below 96	96-130	Above 130
			5.8	C	Below 109	109-140	Above 140
				D	Below 108	108-139	Above 139
			6.8	C	Below 113	113-145	Above 155
				D	Below 112	112-145	Above 145
			7.8	C	Below 124	124-155	Above 155
				D	Below 122	122-155	Above 155
			8.8	C	Below 136	136-167	Above 167
				D	Below 137	137-167	Above 167

level; no effort was made to determine the relative difficulty of each passage for the student. Established rates are listed in Table 1.

Gilmore and Gilmore (1968) tested 4,455 students in the standardization population for the Gilmore Oral Reading Test to establish norms for oral reading rate. These norms are reported in Table 1. Standardization was conducted in school systems in six states. A total of eighteen schools was involved. Ranges of rates are provided at each grade level for two forms of the test. These ranges are categorized for slow, average, and fast readers.

While this study does offer ranges of rates, it is limited in two ways. First, since the test administered was an oral reading test, only oral reading rates could be reported. Secondly, as in past studies, relative difficulty for students was not determined.

The present study examined the oral and silent reading behavior of fourth grade students. Reading rates (oral and silent) for all levels of readers in the fourth grade were compared to determine average rate of reading at various difficulty levels and to establish criterion rates for fluent reading at the fourth grade level.

METHOD

Subjects

The sample for this study included fourth grade students from six classrooms in three public schools. The schools used in this

study were all located in central Oklahoma.

The final sample was composed of those fourth grade students who had parental permission to participate and who had taken the Metropolitan Achievement Test, Sixth Edition Elementary Level in third grade. No special education students were included. A total of seventy-two students, 27 male and 45 female, were included in the study. Mean chronological age was 10 years 2 months.

The range of Total Reading scores from the MAT-6 was 1.9 to 12.5. The mean score was 5.2, which was more than one year above the students' grade placement at the time of the testing. In averaging the readability levels of the passages read at each difficulty the following mean readability levels were determined: Difficulty 1, 4.2; Difficulty 2, 5.2; and Difficulty 3, 4.5.

Materials

The Total Reading grade equivalency score from the Metropolitan Achievement Test, Sixth Edition Elementary Level was used as the initial screening tool to determine entry into the reading rate passages. The Total Reading score is a composite of three subtest scores: Reading Comprehension, Vocabulary, and Word Recognition Skills.

The passages used in this study to measure oral and silent reading rates were developed by Daves (1986) to use in her study of the reading rates of able and disabled readers. Passages are between 200 and 250 words long. Readability was established using

the Spache Readability Formula (levels 1.88 to 3.5) and the Dale-Chall Readability Formula (levels 4.66 to 6.48). There were two passages at each readability level.

Procedures

All of the tests were administered during March and April. The testing areas were within the schools and were as free of distractions as possible. Each child was tested individually, and all testing was conducted by the researcher.

Each child's third grade Total Reading score from the Metropolitan Achievement Test, Sixth Edition Elementary Level (MAT-6) (1986) was obtained from his/her file. These grade equivalent scores were used to determine the entry point into the Rate Passages (Daves, 1986).

Rate of reading (in words per minute) was collected for each child on oral passages and silent passages. Only actual reading time was recorded. The time required to respond to comprehension questions was not included in the rate measurement. The oral reading rate was measured with a stopwatch at the time of the testing. Each oral reading was audio-taped, so rate could be re-checked. The silent reading rate was only measured with a stopwatch at the time of the testing.

The rate passages were entered at the readability level closest to the grade equivalent from the MAT-6. The first passage was read orally. The researcher timed each reading and marked the word

recognition errors. The word recognition errors marked were substitutions of whole words, mispronunciations, insertions of whole words, omissions of whole words, and words pronounced by the researcher. Following the reading, the child was asked to respond to ten comprehension questions, and his/her responses were recorded on the test form. The child was not allowed to refer to the passage during the questioning. The session was audio-taped, which allowed the researcher to recheck time, word recognition errors, and responses to questions.

Following the oral passage, the child was asked to read a silent passage which was at the same readability level as the oral one. The child's reading time (wpm) was recorded. As with the oral passage, the child responded to ten comprehension questions.

The criteria utilized to determine Difficulty 1 ($\geq$95%, $\geq$71%) and Difficulty 2 (91% to 94%, 60% to 70%) were established in Daves' (1986) study. Difficulty 3 was established when the child's word recognition and comprehension fell below the criteria for the first two difficulty levels. The criteria for Difficulty 1 established a passage that was easy for the student to read. A passage at Difficulty 2 presented some word recognition and comprehension problems, but was still within the student's ability to read.

If the entry passage was at Difficulty 2 (91% to 94%, 60% to 70%) or Difficulty 3 ($<$91%, $<$60%), the child was asked to read passages that decreased in difficulty until an oral passage was read

that corresponded with Difficulty 1 (≥95%, ≥71%) criteria. If the entry passage was at Difficulty 1 or Difficulty 2, the child was asked to read passages increasing in difficulty until an oral passage was read that corresponded with Difficulty 3 criteria. Testing was continued until the child obtained a passage at each difficulty level or until all possible passages had been read. The passages ranged in readability from 1.88 to 6.48, and there were two passages at each of the levels. For some students there were not passages of a low enough readability to obtain Difficulty 1 criteria. Likewise, for some students the passages did not offer a high enough readability to obtain Difficulty 3. Therefore, some children do not have a rate score for some of the difficulty levels.

Results

In examining the mean oral reading rates in this study, the following mean rates were determined: Difficulty 1 (≥95%, ≥71%) = 115.379 wpm; Difficulty 2 (91% to 94%, 60% to 70%) = 101.286 wpm; Difficulty 3 (≤91%, ≤60%) = 81.559 wpm. Mean silent rates were also established: Difficulty 1 = 132.394 wpm; Difficulty 2 = 123.786 wpm; Difficulty 3 = 120.029 wpm.

Using the mean rates and standard deviations for oral and silent reading, expected ranges of rates were determined for Difficulty 1, Difficulty 2, and Difficulty 3. One standard deviation below the mean and one standard deviation above the mean were included to incoporate approximately 68% of the expected rates (Table 2).

Table 2

Ranges of Oral and Silent Reading Rates for Three Levels of Difficulty

Level	Oral	Silent
Difficulty 1 (≥ 95%, ≥ 71%)	88.775 to 141.419	94.5 to 170.288
Difficulty 2 (91% to 94%, 60% to 70%)	74.348 to 128.224	85.89 to 161.682
Difficulty 3 (< 91%, < 60%)	56.438 to 118.68	67.055 to 173.003

*Reported in words per minute.

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DISCUSSION

Comparisons of the mean rates established by this study with mean rates established in previous studies (Durrell, 1955; Taylor, 1961; Gilmore & Gilmore, 1968) indicate serious inconsistencies. Durrell (1955), in establishing norms for his diagnostic reading test, listed a mean of 135 wpm for oral reading and a mean of 156 wpm for silent reading at the fourth grade level. Both of these means are higher than either of the mean rates for the easiest oral or silent passage from this study. Gilmore and Gilmore (1968) established a range of oral reading norms (95 wpm - 130 wpm) for fourth grade readers who took their reading test. This range of rates also exceeds the means established in this study for oral reading (87 wpm - 115 wpm). Taylor (1961) in establishing his rate norms also controlled for comprehension. Since he required at least 70% comprehension, his mean silent rate (158 wpm) should correspond to the mean silent rate at Difficulty 1 (132 wpm) in this study. However, Taylor's mean rate is twenty-six words per minute faster than the mean rate in this study.

The large differences in rates are cause for concern in two areas. In two studies (Durrell, 1955; Gilmore & Gilmore, 1968) the rate norms are used as criteria to determine success on a reading test. If the reader does not complete the test within the rate norms for his grade level, he/she is penalized. The present study would indicate that rate should not be considered as a factor in

word recognition and comprehension tests but should be measured as a separate component of the reading process.

The oral and silent reading rates obtained in this study indicate a decrease in the rate of reading in the past twenty years. Even when the relative difficulty of the material was held constant, the students in this study read slower than students in previous studies (Durrell, 1955; Taylor, 1961; Gilmore & Gilmore, 1968). This confirms Daves' (1986) finding that the mean rate for the students in her study was lower than the rates established by Taylor (1961). Results from the present study suggest that rate should be considered a separate facet of the reading process. As such, instructional time should be specifically directed to the improvment of rate and the development of flexibility in rate for materials of various difficulty levels.

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